MONKS (G. H.)

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BY

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OPERATIONS FOR CORRECTING THE DEFORMITY DUE TO PROMINENT EARS.[1]

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I DO not propose in this paper to discuss the question as to the desirability of doing an operation for the correction of this deformity; but shall assume that any operation, at once simple and safe, which bids fair to accomplish this result, is justifiable. I have operated upon five cases in all; and I take the liberty of reporting them to you this evening, and of laying before you, for your consideration, the conclusions to which I have come.

CASE I. In 1887 I was asked by Dr. Morton Prince to examine the ears of a little girl three years of age, with the view of devising some apparatus to keep them back by pressure. The father of the child had made a contrivance, consisting of a half-circle of spring brass wire, which passed over the child's head, and terminated at each extremity in a pad to rest upon the ears. This apparatus had been faithfully applied for months without much benefit. The difficulty was that the pads could not always be kept in place.

The deformity in this case was complicated by the dropping over of the ears at the top. This was more marked on one side than on the other. Though an operation was spoken of, it was decided to try for a while longer the effect of pressure. Having taken a plaster cast of one ear in its corrected position, I fitted

[1] Read at the meeting of the Suffolk District Medical Society, October 25, 1890.

wire loops into the various depressions, and connected these with one end of the spring wire which went over the top of the head. I wished to experiment with this method on one ear at a time. The task of fitting these wire loops properly was a tedious one; and after it was all done, I was disappointed to find that, while the plan might have been suited to an adult ear, it was of comparatively little use for that of a child; for the cartilages were so soft and pliable that they offered too little resistance, and the wire loops were, therefore, easily dislodged.

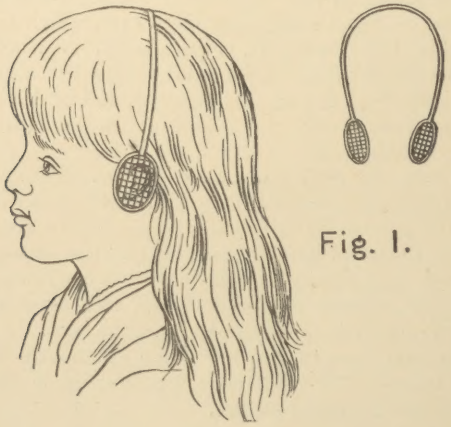

Fig. 1.

I then gave up that plan, and tried another. At each end of the brass wire which passed over the head I attached a circle of wire large enough to completely surround the ear and so placed that when in position, its centre would be opposite the central point of the ear. This circular loop I strung with white worsted, somewhat after the plan of a tennis-racket. I thus

had a very simple apparatus, consisting of the bent piece of flattened brass wire, passing over the head, and ending on both sides in racket-shaped extremities.

This contrivance was tried faithfully, off and on, for several months; but at the end of this time we could not see any great improvement in the position of the ears.

Case II. While these experiments were going on, a man with very prominent ears came to me at the Boston Dispensary (February 28, 1888), and expressed a wish that I should do an operation upon his ears, to keep them back. He said that he was greatly annoyed by boys and others on the street, who ridiculed him on account of his deformity. The cartilage in this case was so stiff that I thought it best to excise a portion of it. Having made an elliptical incision behind the ear, I removed a piece of skin and of cartilage of corresponding shape and size. The axis of this ellipse was vertical, that is, parallel with the adjacent side of the head. All this was done from the rear, and the skin on the anterior surface of the ear was not interfered with. The cut edges of cartilage were united by deep sutures, and the skin stitched together over them. An antiseptic dressing was applied and the ear was bandaged firmly back against the head. In this operation I was assisted by Dr. Baldwin.

Although the wound did not heal by first intention, yet it did not gape, and when the scar had formed, the position was excellent.

In spite of the patient's assurance that he would have a similar operation done upon the other ear he did not return at the appointed time; and I have not seen him since. He probably dreaded the pain of another operation, for under no circumstances could I prevail upon him to take ether.

Although the result in the case of the ear operated

upon was all that could have been desired, so far as keeping the auricle back against the head was concerned, yet there were certain features about this operation, which I did not wholly like. There was formed a vertical fold of skin on the front aspect of the ear where the edges of cartilage had been brought together. Though this was not a serious objection, yet the ridge was to a certain extent a disfigurement.

Another noticeable feature was that the cartilage required a long time to heal. However, on the whole, I considered the operation a very successful one, as did also the gentlemen who saw the case.

Later, while thinking over the operation and its results, I came to the conclusion that although a pinna of strongly resistant cartilage, as in the case just given, cannot be held back for any length of time without some operation upon the cartilage itself; yet it seemed that, in cases where the cartilage was soft and more pliable, *the excision of an elliptical piece of skin only* from the back of the ear, and stitching together the edges of the gap thus left, would be much simpler in the way of an operation and quite as efficient in holding back the pinna without causing any unnatural folds on the exposed aspect of the ear.

Case III. In January, 1890, I had the opportunity of trying this method on a little girl, one year old. Both ears were prominent, the right one especially so. Besides this, the right ear was turned over at its upper border, thus making a conch-shaped ear. It was decided to set this ear back so as to make it like the other. Dr. C. L. Scudder assisted me at this as well as at the subsequent operations. The elliptical piece of skin was removed from behind the ear, the edges of skin brought together, and now nine months after the operation, there has been no sign of return of the deformity, and the mother expresses herself as greatly pleased with the result.

The success of this case induced the parents of Case I to consent to an operation, and both ears were treated by the excision of an elliptical piece of skin, as already described. The result was good and now, eight months after operation, the parents are well satisfied with the position of the ears.

Case IV. A little girl of five. The right ear was larger than the other, and projected unduly from the side of the head. Excision of a large elliptical piece of skin from behind the ear. Two months after the operation, the ear was well back: This case has not since then been heard from.

Case V. A boy of nine. Ears very prominent. A large ellipse of skin from behind each ear removed,

Fig. 2.

Fig. 3.

and now, two weeks after the operation, the wounds are thoroughly healed and the scar is quite firm.[2]

I was not aware until a few months ago that any operation for the relief of the deformity in question had ever been recommended or performed, though I

[2] These two drawings are made from photographs, of which the first was taken about one year before the operation and the other about six weeks after it. Since the healing of the wounds the child's ears have been bandaged only at night.

thought it not unlikely, on account of the frequency of the deformity and the apparent simplicity of its mechanical correction. I soon learned, however, that several medical gentlemen in Boston had had cases under their charge, but I did not hear as to their methods of operating or results.

My attention was also called to an article by Dr. W. W. Keen, of Philadelphia, in the *Annals of Surgery* for January, 1890. Dr. Keen there describes an operation which he performed upon a boy of nineteen, with satisfactory results. Having excised an elliptical piece of skin from the back of the pinna, "a long, narrow piece was removed from the cartilage itself, V-shaped on cross-section, like the furrow of a plough." This gap in the cartilage was vertical, and being V-shaped, allowed the outer part of the pinna to be swung back towards the head upon the anterior hinge of skin (for the skin on the front of the ear had not been interfered with).

In his article Dr. Keen refers to an operation by Dr. Edward T. Ely,[3] of New York. The case was that of a boy aged twelve. Dr. Ely removed an elliptical piece of skin and cartilage from each pinna. The piece removed included the whole thickness of the pinna, that is the skin in front and behind and the cartilage between. The result was said to be excellent.

The operations therefore for the correction of the deformity in question are of two kinds; in the one the skin and cartilage are excised, and in the other the skin only.

OPERATIONS BY EXCISION OF SKIN AND CARTILAGE.

These operations appear to be called for only in cases where the cartilage is stiff, and they are therefore applicable principally to adults. Unusual twists or turns

[3] Archives of Otology, 188 vol. x, page 97.

in the cartilage, thus causing special and unusual deformities, call for special modification in the technique of operation. One should, however, before he attempts any operation upon the cartilage for the correction of any deformity bear in mind the low regenerative power of that tissue, and he must therefore expect to wait patiently for the healing process to be complete.

It seems almost impossible that an operation upon the cartilage can be performed, which will leave no trace in the way of scar or unnatural prominence or depression on the outer aspect of the ear. I have already referred to the vertical fold of skin present in my case (Case II). If the elliptical piece comprises the whole thickness of the ear (Ely), a scar, more or less visible, is inevitable. If a V-shaped vertical groove is made in the cartilage from behind, and the part of the ear outside of this bent back against the head (Keen), a vertical ridge representing the angle in the cartilage must make its appearance on the outer aspect of the ear. These slight disfigurements which might be called "substitution deformities" will probably grow less and less noticeable as time goes on; but they must ever be drawbacks to the success of any of these operations. In spite of them, however, in certain extreme cases of unduly prominent ears in adults an operation upon the cartilage would seem to be justifiable and will probably give, on the whole, very satisfactory results.

In all cases the piece removed from the skin of the ear should be somewhat larger than that removed from the cartilage.

OPERATION BY EXCISION OF SKIN ALONE.

This method appears to be applicable to all those cases where excision of the cartilage does not seem to be necessary. The shape of the ellipse of skin to be removed from the back of the ear will vary to a certain

extent with each case. Undue prominence of the ear at any one point should call for the resection of a specially broad piece of skin at that point. The incisions to be made, and the shape of the piece of skin to be removed, in the ordinary prominent ear, when the ear projects below as well as above, is shown in Fig. 4. The stitches are represented properly applied and ready to pull tight and knot.

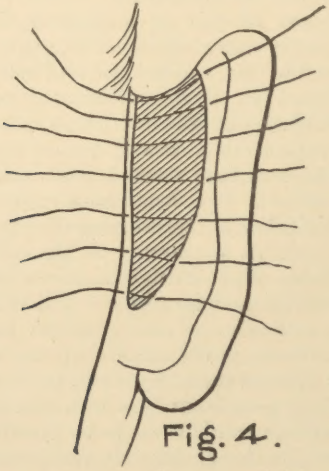

Fig. 4.

In cases where the ear projects particularly at the top, while the lower part is normal (and this seems to be the next frequent variety of the deformity), the resected portion should be broadest above; while in the rare variety of the deformity where the lower part of the ear is particularly prominent the portion resected should be broadest below. In all cases the inner incision should be close to the bottom of the sulcus

where the skin of the back of the ear joins that on the side of the head.

The operation may apparently be performed in suitable cases at any age with success; though probably the earlier in life it is done the better will be the ultimate result. Ether is required and the services of one good assistant. When under the anæsthetic the patient should be turned so that the ear requiring operation is uppermost. The scalp is then covered with sheet rubber and the field of operation cleaned with ether and corrosive sublimate. The piece of skin to be removed having been carefully mapped out it should be dissected off. The sutures should then be inserted in such a manner that when drawn tight the deformity is satisfactorily corrected, and rather more than corrected, so that the ear lies rather flat against the head. It may be necessary, for the sake of changing the axis of the ear, to insert the stitches, *diagonally*, from one skin edge to the other.

In case the operation is to be done on one side only, the two ears should be compared from time to time. When everything is satisfactory the sutures should be tied, and iodoform powder dusted along the line of incision. A temporary dressing is now to be applied in case the other ear is to be operated upon and the patient is turned upon the other side. The operation is then done on the second ear, both ears being compared from time to time. A layer or two of iodoform gauze is then placed back of each pinna, and the ears pressed firmly against the head by a bandage.

The operation is one of extreme simplicity, the only difficulty being in resecting a piece of skin of the proper shape and size and in properly placing the sutures. As the cartilage tends to regain its old position somewhat after the operation, a broad piece of the skin should be resected; that is, a piece equal in breadth to

more than half the breadth of the back of the ear. As for suture material I have thus far used silk, and have removed them from the third to the sixth day. When I feel sure that I can get catgut, which is thoroughly aseptic, I shall use that by preference. A bandage ought to be worn for a period from ten days to two or three weeks. As a precautionary measure it is desirable that at night some sort of bandage or night-cap should be worn for several months to take the strain off the cicatrix, and prevent the patient from forcing the pinna forward by turning on the pillow.

The hearing is apparently not affected by this operation, and I am told by specialists that it cannot do harm in this respect.

The possibility of a resulting eczema has been suggested to me and should be borne in mind in case the patient has an eczematous tendency.

The scar is usually small and is mostly concealed by the pinna which is drawn back over it.

A sufficient length of time has not yet elapsed to enable me to state definitely that the correction of the deformity by resection of the skin alone is wholly permanent. I feel confident, however, that, when enough skin is removed and the ear is kept back until the cicatrix is mature, and possibly somewhat longer, return of the ear to its original degree of deformity is impossible.